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ABSTRACT

A series of research studies on the consistency of reading specialists' diagnoses of students with reading problems have indicated that clinical agreement has been astonishingly low. To investigate which factors seem to lead to consistency in clinical diagnosis, a study was conducted based on a theory of clinical problem solving called inquiry theory. This theory describes the ways in which a clinician approaches a case in order to diagnose the problems and recommend a program of remediation. Interactions are determined by the characteristics of the case material and by the clinician's memory and strategies. An assumption is that clinicians having had the same training will have greater similarities in their memories and problem solving strategies. Three reading disability cases--two actual cases, with the third being a slightly altered version of the first--were diagnosed by eight graduate students enrolled in a diagnostic practicum in a master's degree program for the reading specialist certification. Eight reading specialists in the field who had been trained in eight different institutions also diagnosed the same three cases. For the two cases that were actually the same, results showed a significantly higher intrasubject consistency among the graduate students than among the clinicians. While the intrasubject consistency was higher than intersubject consistency for the graduate student group (whose agreement was 100% consistent for the replicate cases), intersubject consistency was higher than intrasubject consistency for the reading specialist group. (HOD)

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How Consistent is the Clinical Diagnosis of Reading Specialists?

Eight reading specialists and eight graduate students diagnosed the same three reading disability cases. Differences in their diagnoses and in their prescriptions for remediation are compared and analyzed.

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HOW CONSISTENT IS THE CLINICAL DIAGNOSIS OF READING SPECIALISTS?

The ability to interpret a variety of measures used to assess a student's "reading ability at each level of reading achievement" is a specific skill required of a reading teacher (IRA, 1978). These same Guidelines for the Professional Preparation of Reading Teachers (IRA, 1978) also specify that a reading teacher should have the ability to identify "patterns of behavior" which could "affect the student's progress in learning to read." Competence in accurate diagnoses of students with reading problems is a necessary prerequisite for prescribing an appropriate program of remediation.

A series of research studies on the consistency of reading specialists' diagnoses of students with reading problems has indicated that clinical agreement has been astonishingly low (Vinsonhaler, 1979; Weinshank, 1978; Gil, Hoffmeyer, VanRoekel, & Weinshank, 1979; Gil, Polin, Vinsonhaler, & Van Roekel, 1980; Weinshank, 1980). In one study the correlation of agreement between any two clinicians was - .07 (Gil, et al, 1979). The same study found that when a reading-specialist diagnosed two versions of the same case, the second being a simulation of the first, intraclinical agreement was .17. The 8 reading specialists in that study had a mean of 10 years of experience.

Researchers of these studies offered the following possible explanations for these discouraging findings: 1) the nature of the training of reading specialists; 2) the lack of a standardized vocabulary used in diagnosis; 3) procedural problems in the experiments themselves; 4) the possibility that diagnostic reliability was less crucial than accurate recommendations. Follow-up studies to attempt to answer these questions revealed that when reading specialists received intensive training using specific procedures

for gathering and interpreting data in reading disability cases, posttest agreement of one clinician with another was .33 (Gil, Polin, Vinsonhaler, & VanRoekel, 1980). Furthermore, the relationship of agreement of the same clinician with himself on two versions of the same case ranged from only .17 to .53.

The Study

The present study was undertaken because the researcher, who trains reading specialists, believes that diagnostic reliability forms the basis of accurate recommendations for remediation. In order to investigate which factors seem to lead to consistency in clinical diagnosis, the study addressed the following questions:

1. How do reading specialists think about cases they have to diagnose and for which they have to prescribe?
2. How does this thinking affect their decision-making - their diagnosis and prescription?
3. What is the influence of training on the consistency of clinical diagnosis?

This research is based on a theory of clinical problem solving called Inquiry Theory (Elstein, Shulman, Vonsonhaler, Wagner, and Bader, 1978). Inquiry Theory describes the ways in which a clinical approaches a case (a student with a reading problem) in order to diagnose the problems and recommend a program of remediation. Interactions are determined by the characteristics of the case material and by the clinician's memory and strategies. An assumption is that clinicians having had the same training will have greater similarities in their memories and problem-solving strategies. A corollary affirms that their diagnoses and recommendations should also be more similar than those of clinicians with dissimilar training.

Observational studies have indicated that there are essentially four major activities carried out by most clinicians when diagnosing cases. They are:

1. Cue acquisition - gathering data from available sources.
2. Hypothesis generation - developing alternative explanations for problems noticed in the data.
3. Interpretation - based on cues in the data and hypotheses formed by the clinician.
4. Diagnostic judgment - combining information to reach decisions.

Two additional activities involve treatment decisions. The first concerns the clinician's ability to evaluate the effects of different treatments under consideration. The second activity is the selection of the treatment considered to be most appropriate after alternatives have been evaluated.

Two corollaries to Inquiry Theory state:

1. Treatment depends on diagnosis. That is, treatments should depend on the problems as diagnosed. While this is not to imply that there is only one way to remediate a particular reading problem, some treatments are inappropriate for some problems and some students, while other recommendations are clearly more appropriate.
2. The greater the similarity between cases, the greater the similarity of treatments for those cases.

Method

Three reading disability cases were diagnosed by eight graduate students enrolled in diagnostic practicum in a master's degree program for their reading specialist certification. Eight reading specialists in the field who had been trained in eight other institutions also diagnosed the same three cases. The mean number of years they had been practicing was 10. Two of

the cases were taken from the files of the Beaver College Reading Clinic and were actual students who had attended the Clinic. The third case was not a different case but only a slightly altered simulation of the first.

Procedures

Each clinician was seen individually and was given unlimited time to complete the cases. To overcome possible procedural problems in previous studies, all clinicians were given the case material in a packet. Information included the student's age, grade, I.Q., samples of his word recognition in isolation, samples of his oral reading of several passages, his responses to questions about passages he had read both orally and silently, and results of several levels of a spelling test showing his handwriting.

The following questions were given to each clinician on a 5 x 8 card before he read the case information.

1. Which cues in the data are you focusing on?
2. What hypotheses are you forming about this student?
3. What decisions are you forming? What is your diagnosis?
4. What prescriptions would you suggest to this student's teacher?
5. What else would you want to know about this student?

The first three questions reflect the major activities of clinical problem-solving according to Inquiry Theory. The fourth, while not a problem-solving activity, represents Inquiry Theory's first corollary, that prescription should depend on diagnosis. The fifth question was given to clinicians to help jog their memories of previous cases they had diagnosed, which might aid their search for cues in the present case data.

For each of the three cases, clinicians were to write their diagnosis and prescription as well as their thoughts about cues in the data which led to their decisions. The diagnostic categories of "corrective" and "remedial"

were discussed with clinicians before they read the case information to help insure that vocabulary used would be standardized. During the time each clinician was diagnosing each case, the researcher remained available to answer any questions. Presentation of the first and the third cases, the simulated replicate, was counterbalanced to avoid possible effects of order of presentation.

Hypotheses

1. The consistency of clinical diagnosis will be higher among the eight graduate students trained in the same college program than will be the diagnoses of the eight reading specialists trained in different programs.
2. Intra-subject consistency will be higher than the consistency among clinicians in either group, as each clinician was really diagnosing the same case twice.

Results

Knowing the criteria clinicians used for decision-making can help to answer the first question this study addressed: "How do reading specialists think about cases they have to diagnose?" Table 1 shows the 10 criteria used for decision-making by subjects in diagnosing Adam/"Sharon", the first case and its replicate. The decision-making categories were established after the researcher had interviewed each subject and had reviewed all notes the subject had taken during the analysis of case material.

Insert Table 1 about here

The 100% consistency among graduate students on the categories of sight vocabulary, word analysis skills, work recognition in context, and vocabulary (word meaning) is startling, compared to results of previous research. Among the practicing reading specialists, the highest degree of inter-clinician consistency, 75%, was obtained in the categories of word recognition in context and in comprehension. It is interesting to note that all graduate students selected Adam's difficulty with vocabulary as a salient cue, but no practicing reading specialist found vocabulary salient enough to be a criterion for diagnosis.

Table 1 also indicates that the graduate students had 100% intra-clinical consistency for the simulated case "Sharon" in the categories of sight vocabulary and word analysis skills. Although the 75% proportion of agreement in comprehension was consistent across both cases for the reading specialist group, these results do not reflect intra-clinical consistency. This is because the 6 out of the 8 reading specialists who found comprehension to be an important criterion for Adam were not the same 6 reading specialists who selected this criterion for "Sharon." The category labeled "Other" included hypotheses about whether the child had been retained, parental attitudes, learning style, and others.

The answer to the second question raised in this study, "How does this thinking affect decision-making?" can be seen in Table 2. The graduate students' diagnosis, "Corrective reader, for Adam/"Sharon" indicates 100% agreement, a dramatic difference from previous research findings. Inter-clinician agreement of 50% among reading specialists in their diagnosis of Adam was higher than agreement attained in previous studies only after intensive training of reading specialists in the same reading program (Sherman,

Weinshank, and Brown, 1979). Hypothesis 1 stated that the consistency of clinical diagnosis for the graduate students trained in the same program will be higher than the consistency of the diagnosis of the reading specialists trained in different programs. Hypothesis 1 is confirmed as seen in Table 2.

Insert Table 2 about here

Hypothesis 2, that intra-subject consistency would be higher than inter-subject consistency because each clinician was really diagnosing the same case twice, was not confirmed. While this prediction was true for the graduate student group, whose agreement was 100% consistent for both cases, it was not true for the group of reading specialists. The mean inter-subject consistency for the reading specialists on Adam/"Sharon" was 68.75%. Intra-subject consistency, on the other hand, was 50%. Only half the group decided on the same diagnosis for Adam/"Sharon." That is, inter-subject consistency was higher than intra-subject consistency for the reading specialist group.

The eight subjects in each group were asked to make recommendations for each case in three areas:

1. What is the appropriate instructional level for this student?
2. What teaching approaches would you recommend?
3. What instructional setting would you recommend?

For the group of graduate students, the 100% degree of agreement of their diagnosis for Adam/"Sharon" also operated in their recommended solutions for remediation in two of these three areas. There was 100% intra-subject consistency among the 8 graduate students in their recommended solutions for instructional level and teaching approaches. All graduate students recommended

an instructional level of first for Adam/"Sharon". All graduate students recommended a teaching approach combining a basal reader and a Language Experience approach, stressing comprehension, particularly word meeaning. There was an agreement of 62.5% for the third recommendation, "Instructional Setting." Although every graduate student recommended small group instruction in the classroom for Adam/"Sharon," the 62.5% agreement reflects the inclusion of an additional recommendation, "resource room three times a week" for example, for one case but not for its replicate.

The degree of consistency of the reading specialists on the same three solutions was most interesting. Their percentage of agreement for instructional level and teaching approach, 62.5% was higher than the intra-subject consistency of their diagnosis, which was 50%. In contrast to a first grade instructional level assigned by 100% of the graduate students, 62.5% of the reading specialists recommended instructing Adam/"Sharon" at second. A teaching approach stressing comprehension was recommended by 62.5% of the reading specialists. Recommendations for "Instructional Setting," however, were as divergent as "Individual Instruction" for Adam to "Whole class instruction" for "Sharon." Recommendations for "Instructional Setting" were consistent for only 37.5% of subjects in this group.

The third case, Thomas, was selected because the salient cues in the case data should have enhanced the possibilities for consistency of diagnosis and prescription. Some of these salient cues were Thomas's extremely limited sight vocabulary, his inability to benefit from context as an aid to word recognition when reading orally, and his excellent listening comprehension which was above his grade level (second). Table 3 shows the degree of agreement of the two groups of subjects on the selection of criteria used for decision-making. The category labeled "Other" included questions about Thomas's vision and his social-emotional adjustment.

Insert Table 3 about here

The diagnosis and prescription for Thomas by each group are shown in Table 4. The consistency of clinical diagnosis, 87.5%, in both groups of subjects, is significantly high in relation to results of previous studies. It is interesting to note, as seen in Table 3, that all the graduate students used the criterion of "sight vocabulary" for decision-making, but only 62.5% of the reading specialists did. Yet, the diagnosis of "Remedial," agreed on by 87.5% of subjects in both groups, usually presupposes a limited sight vocabulary as a criterion for this descriptive category.

Insert Table 4 about here

The recommendations for prescription in the areas of "Instructional Level," "Teaching approach," and "Instructional setting" were disparate. As shown in Table 4, all but one of the reading specialists, 87.5%, but only 37.5% of the graduate students felt that Thomas's instructional level had not been established. However, no graduate student would instruct Thomas above primer level. There was 100% interclinical agreement that word recognition should be part of a teaching approach used for Thomas. There was 87.5% agreement among the graduate students that Thomas should be taught using the Language Experience Approach, but only one reading specialist prescribed this approach. Every reading specialist, 100%, recommended "Specific skills" as an approach for Thomas. Clearly, the graduate students viewed reading instruction more holistically than did the reading specialists. The graduate students' recommendation that Thomas's instruction be individualized seemed consistent with that groups' diagnosis of the severity of his reading problem.

Discussion

Results of this study are dramatically different from results of previous studies in clinical problem-solving. One reason which could account for different results in this study was the use of experimental procedures suggested by previous studies, particularly the format for information presented to clinicians. Secondly, the group of graduate students had a similar model of the reading process because they had taken the same theoretical courses in which models were developed. One's model of reading should influence decisions about what cues are important and which ones are selected from case data. Finally, the graduate students had been trained in diagnosis using a problem-solving paradigm, with specific procedures for data collection and for a quantitative and qualitative analysis of data collected. Some of these training procedures include:

1. Demonstration by the instructor of an analysis of case data.
2. Analyses of several cases as a class project.
3. Analyses of other cases as individual assignments.
4. Class discussions of appropriate treatments for cases presented.
5. Choosing most probable treatments for a case.

Graduate clinicians' memories for cases were enhanced and heuristics for diagnosing case information were developed through this "teach, practice, and apply" approach.

The class of graduate students who participated in the study was not superior to other classes the researcher has taught. Yet not only was the consistency of their clinical problem-solving and treatments for the cases significantly higher than results of previous studies, they were also correct and appropriate. The cases used in this study were taken from clinic files and were known to the researcher.

Limitations of the Study

The dramatic results in the consistency of the diagnosis of the eight graduate students should be viewed cautiously, rather than generalized. First, there was a small number of subjects in the study. Second, in spite of careful questioning by the researcher of the reading specialists, some descriptive vocabulary used by the specialists might have been interpreted differently. Third, a few of the reading specialists function more as administrators than as clinicians, so their recent experiences with clinical work might not be as extensive as had been expected. Last, reading specialists gave generously of their time to participate in the study. Pressures to complete their diagnoses and return to their desks might have led some of them to overlook important cues, which could have affected their decision-making.

A theoretical limitation could have been the name "Sharon" given to the simulated case. Perhaps reading specialists' different experiences with boys versus girls who have reading problems led them to select different diagnoses and prescriptions for Adam/"Sharon". If "Sharon" had been "Sam"perhaps the intraclinical consistency for the reading specialist group would have been higher.

Conclusions

In clinical problem-solving, as in reading itself, the problem-solver has to be helped to know where to look and what to look for to find the solution he is seeking. One aspect of the Inquiry Theory of problem-solving states that it is the clinician's memory of cases and his strategies that help determine his interactions with the case. Clinicians with more experience should be better able to find cues which are important in developing an accurate interpretation of the case. Teacher-trainers can help graduate clinicians know where to find cues and how to decide which cues are important

for decision-making. For example, Sherman (1979) used a Memory Battery Test to expand a clincian's experiential background with case information. This test required clinicians to generate cues from information given or, when given cues, clinicians had to generate categories or factors which should be considered in decision-making in order to identify a reading problem.

Other results of the study raise questions about a wide experiential background as the critical factor needed for accuracy in diagnosis and prescription. The reading specialists in this study had been practicing for many years. One had been a reading teacher for twenty years. Do clinicians who diagnose and prescribe with so small a proportion of consistency nevertheless use treatment procedures which help students with reading problems? If their success rate for treatment is higher than the consistency of their diagnosis, then perhaps accuracy in diagnosis is not very important in implementing treatments which work.

In spite of the limitations of the study and the questions it raises, its results indicate that reading specialists can be trained to be consistent in their diagnosis and accurate in their recommendations. The same paradigm found effective in teaching children - teach, practice, apply, test, re-teach, - can work equally effectively when training reading specialists in clinical problem-solving.

Table 1

Criteria Used for Decision-Making

Case #1 - ADAM

	Sight Vocab.	Word Analyses	Word Recog/ Context	Compre-hension	Question-type	Vocab-ulary	Listen-ing Compre-hension
Reading Specialists	37.5%	62.5%	75%	75%	25%	0%	37.5%
Graduate Students	100%	100%	100%	50%	50%	100%	37.5%

Case #3 - "SHARON"

Reading Specialists	37.5%	75%	12.5%	75%	12.5%	37.5%	0%
Graduate Students	100%	100%	75%	25%	75%	37.5%	37.5%

Table 2

Diagnosis of Adam/"Sharon"

	Adam	"Sharon"
Reading Specialists	Corrective: 50% Remedial: 50%	Corrective: 87.5% Remedial: 12.5%
Graduate Students	Corrective: 100%	Corrective: 100%

Table 3

Criteria Used for Decision-Making

Case #2 - Thomas

	Sight Vocab-ulary	Word Analy-sis	Word Recog./ Context	Comp-rehen-sion	Other
Reading Specialists	62.5%	0%	50%	62.5%	37.5%
Graduate Students	100%	62.5%	50%	50%	87.5%

Table 4

Diagnosis and Prescription in Three Areas

Case #2 - Thomas

		Prescription		
	Diagnosis	Instructional Level	Teaching Approach	Instructional Setting
Reading Specialists	Remedial: 87.5% Corrective: 12.5%	N.E.:[a] 87.5% 1st 12.5%	Specific skills: 100% Specific material: 37.5% L.E.A.: 12.5%	Small group: 62.5% 1 x 1: 37.5%
Graduate Students	Remedial: 87.5% Corrective: 12.5%	N.E.: 37.5% Pre-primer: 25% Primer: 37.5%	L.E.A.: 87.5% Basal: 12.5%	1 x 1: 87.5% Classroom: 12.5%

[a] N.E. stands for Not Established

References

Elstein, Arthur, Lee Shulman, John Vinsonhaler, Christian Wagner, and Lois Bader. Characteristics of the Clinical Problem-Solving Model and its Relevance to Educational Research. (Res.Ser. No. 27). East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1978.

Gil, Doron, Ethelyn Hoffmeyer, Joel VanRoekel, and Annette Weinshank. Clinical Problem-Solving in Reading: Theory and Research. (Res. Ser. No. 45). East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1978.

Gil, Doron, John F. Vinsonhaler, and Christian Wagner. Studies of Clinical Problem-Solving Behavior in Reading Diagnosis. (Res. Ser. No. 42). East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1979.

Gil, Doron, Christian Wagner, and John F. Vinsonhaler. Simulating the Problem-Solving of Reading Clinicians. (Res. Ser. No. 30). East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1979.

Gil, Doron, Ruth M. Polin, John F. Vinsonhaler, and Joel VanRoekel. The Impact of Training on Diagnostic Consistency. (Res. Ser. No. 67). East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1980.

Guidelines for the Professional Preparation of Reading Teachers. Newark, Del: International Reading Association, 1978.

Sherman, George, Annette Weinshank, and Stephanie Brown. Training Reading Specialists in Diagnosis. (Res. Ser. No. 31) East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1979.

Vinsonhaler, John F. The Consistency of Reading Diagnosis. (Res. Ser. No. 28). East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1979.

Weinshank, Annette. The Relationship between Diagnosis and Remediation in Reading: A Pilot Study. (Res. Ser. No. 37). East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1978.

Weinshank, Annette. Investigations of the Diagnostic Reliability of Reading Specialists, Learning Disabilities Specialists, and Classroom Teachers: Results and Implications. (Res. Ser. No. 88). East Lansing, MI: Michigan State University, Institute for Research on Teaching, 1980.